REILLUSTRATION OF *HYDROPTILA LLOGANAE*, WITH A NEW JUNIOR SYNONYM, *HYDROPTILA MORSEI* (TRICHOPTERA: HYDROPTILIDAE)[1]

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ABSTRACT: *Hydroptila morsei* is identified as a subjective junior synonym of *H. lloganae*. The genital capsule from a male paratype of *H. lloganae* is illustrated. The species is known from 84 males from 11 localities from the Coastal Plain of Florida, Louisiana, South Carolina, and Texas. Emergence dates include all months except January, February, and November.

Hydroptila lloganae was described by Blickle (1961) based on males from four localities in north and central Florida. We have been unable to find any additional published records for this species. We found Blickle's (1961, 1979) illustrations of the male genitalia difficult to interpret, and in an effort to gain a better concept of this poorly known species, we examined three paratopotype males provided by Kathy R. Zeiders, Illinois Natural History Survey.

The paratopotypes of *Hydroptila lloganae* were found to be identical to 32 specimens (14 lots) of male *Hydroptila* in the University of Tennessee collection, originally identified as *Hydroptila* sp. cf. *strepha* Ross. We noted a great similarity between *H. lloganae* and *H. morsei* Sykora and Harris, 1994. This species was described from Dorchester Co., South Carolina, with additional paratypes from Hardin Co., Texas, and Highlands Co., Florida (paratypes of *H. lloganae* were also taken from Highlands Co., Florida). A paratopotype male of *H. morsei* was sent to us by J. L. Sykora, and we find this specimen to represent the same species, rendering *Hydroptila morsei* Sykora and Harris a junior synonym of *Hydroptila lloganae* Blickle.

Hydroptila lloganae Blickle

(Fig. 1a, b, c)

Hydroptila lloganae Blickle, 1961. Blickle (1961), new species, (Fig. 1b, c, d), type locality Chattahoochee, Gadsden Co., FL (holotype male, 13 paratype males), 15 March-21 May 1957, 13 June 1958. Additional paratype males: 1 from Goose Prairie, Jefferson Co., FL (= Goose Pasture, Morse, 1994), 9 May 1958; 14 from Highlands Hammock State Park, Highlands Co., FL, 13 Sept.-25 Oct. 1957, 22 March-13 June 1958; 4 from Temple Terrace, Hillsbrough Co., FL, 27 Dec. 1957, 11 April-13 June 1958. Blickle, 1962, listed, as above. Blickle, 1979, listed, as above, male illustrated, keyed. Morse, 1993, listed. Morse, 1994, Rare in FL, known only from types.

Hydroptila morsei Sykora and Harris, 1994 (**new subjective junior synonym**). Sykora

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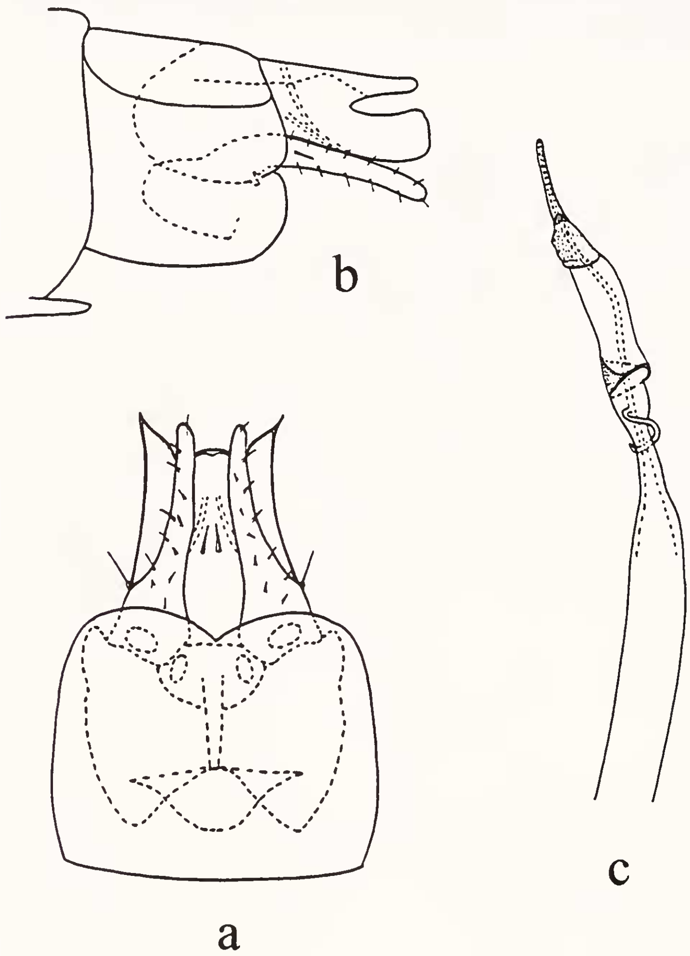

Figure 1. *Hydroptila lloganae* Blickle, genitalia of paratopotype male; a. ventral view. b. lateral view. c. phallus.

and Harris, 1994 (Fig. 14-17), type locality Four Holes Swamp, Goodsons Lake, Dorchester Co., SC, (holotype male, 4 paratype males), 13 Aug. 1976. Additional paratype males: 2 from Four Holes Swamp, Berkely Co., SC, 7 May 1976; 6 from Cypress Creek, Hardin Co., TX, 23 Oct. 1992; 1 from Hickory Creek, Hardin Co., TX, 23 Oct. 1992; 2 from Archbold Biological Station, Highlands Co., FL, 6 March 1964.

MATERIAL EXAMINED

In addition to paratype males of both *Hydroptila lloganae* and *H. morsei* mentioned above, we have examined the following:

LA—Little Bayou Pierre, Natchetoches Parish, 12 males, 27 March 1975.

SC—Upper Three Runs Creek, Savannah River Ecology Laboratory, Aiken Co., 30 June-3 Sept. 1975, 24 males.

DESCRIPTION

The description of the junior synonym, *Hydroptila morsei*, provided by Sykora and Harris (1994) is appropriate for *H. lloganae*, except for a minor point. We interpret the distal portion of the phallus to be lightly sclerotized except for a membranous area near its base and another membranous area just proximal to the tip of the phallus (Fig. 1C). This distal membranous area is separated from the sclerotized middle of the distal portion of the phallus by a slight flange that is not always visible. This is presumably the structure Blickle (1961) described as a "... transparent, alate-like structure on one side". Sykora and Harris (1994) interpreted the entire distal portion of the phallus surrounding the ejaculatory duct to be membranous, but their illustration and our examination of a paratopotype male of *H. morsei* are consistent with our interpretation. Figure 1 is a reillustration of the phallus and ventral and lateral views of the male genitalia of a paratopotype of *H. lloganae*.

Males of *Hydroptila lloganae* from the Aiken County, South Carolina locality formerly in the University of Tennessee collection have been redeposited at the Carnegie Museum, Clemson University, Illinois Natural History Survey, Royal Ontario Museum, the S. C. Harris collection, and United States Museum of Natural History.

ACKNOWLEDGMENTS

Thanks to Kathy Zeiders and Jan Sykora for providing paratype males of *Hydroptila lloganae* and *H. morsei*, respectively. Steve Harris and Jan Sykora graciously provided helpful input to the manuscript, as did two anonymous reviewers. Harvey Stirewalt and Jerry Louton, respectively, provided the light trap material containing the specimens from Aiken County, South Carolina, and Natchetoches Parish, Louisiana.

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BOOK REVIEW

DIVERSITY AND DISTRIBUTION OF THE MAYFLIES (EPHEMEROPTERA) OF ILLINOIS, INDIANA, KENTUCKY, MICHIGAN, OHIO, AND WISCONSIN. 1998. R. Patrick Randolph & W. Patrick McCafferty. Ohio Biological Survey Bulletin, New Series 13(1):vii+188pp. $25.00 plus shipping from Ohio Biol. Survey, 1315 Kinnear Rd., Columbus, OH 43213.

This volume presents results from a Herculean endeavor to document the diversity and distribution of mayflies of six Midwestern states. It is also a monument to the many biologists who collected, preserved, labeled, and curated the collections, and those who deposit voucher specimens of ecological studies. The study extended over a large enough area to include northern and southern species.

An introduction states the rationale of the study, reviews the appropriate literature for the region, the influence of natural physiography (Recent and Pleistocene) and notes the influence of man in degrading streams, rivers and lakes. Table one summarizes distribution patterns with regard to glaciation, water temperature and to five natural regions. Table two shows coefficients of similar species present in 40 regional drainages. These two tables, in conjunction with maps, are predictive of new records in the area and adjoining states. For some species with scattered distributions the existence of nature reserves may be critical. Figure six is valuable because it shows the counties from which no mayfly data are reported. Wisconsin, Indiana, and the Upper Peninsula of Michigan are thoroughly collected, while Kentucky has the lowest percentage of counties from which mayflies are recorded.

There are growing national concerns about biodiversity and the degradation of the environment, but how can we know if aquatic habitats are being degraded without studies such as this one? It is a model of the data needed worldwide.

The heart of the volume is 125 pages of distributional data, reviewing previously published records, and new state and county records. It is the first comprehensive work that treats an area large enough that many advances in species and generic classification of the last 25 years are featured.

I found very few errors and none that obscured meaning. One peculiarity is the citation of an unpublished record of *Pseudiron centralis* from the Platte River in Nebraska although there are published records for the locality. By some lapse the author of *Stenacron gildersleevei* (Traver) is cited as McDunnough.

The volume is concluded by a checklist of the mayfly species for each of the six states, the 36 river drainages, and the four great lakes. This publication will be highly valued for the study area, and will be used by most benthic biologists in North America.

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